

At page 4, at line 26, delete "Fig.1 is" and insert --Figs. 1A, 1B and 1C (SEQ. ID No.2) comprise--; at line 28, after "Fig.2" insert --(SEQ ID No.3)--; at line 33, delete "Fig.4 (SEQ. ID No.4) and (SEQ. ID No.5) is" and insert --Figs. 4A through 4F (SEQ. ID No.4 and SEQ. ID No.5) comprise--; and, at line 34, after "antigen." insert the following:

--The numbers along the left-hand margins of Figs. 4A, 4C and 4E designate the amino acid positions, and the numbers along the right-hand margins of Figs. 4B, 4D and 4F designate the nucleotide positions.--; at page 4, line 35, delete "Fig. 5 is" and insert --Figs.5A, 5B and 5C (SEQ ID No.7 and SEQ ID No.6) comprise--.

In the Claims:

Cancel claims 1-37 without prejudice and insert the following claims:

Sub 12  
38. A purified protein of the *Helicobacter pylori* cytotoxin.

39. The purified protein of claim 38 wherein said protein is recombinantly produced.

40. A polypeptide sequence of the *Helicobacter pylori* cytotoxin amino acid sequence set forth in SEQ ID NO: 3, which polypeptide sequence: (i) comprises at least five amino acids,

(ii) can induce the production of antibodies to *Helicobacter pylori*, and (iii) exhibits substantially no contribution to toxicity.

41. The polypeptide sequence of claim 40 wherein said sequence comprises at least ten amino acids.

Sub 13 42. The polypeptide sequence of claim 40 wherein said sequence comprises about five to about fifteen amino acids.

43. A prophylactic or therapeutic vaccine comprising an effective amount of a polypeptide sequence of the *Helicobacter pylori* cytotoxin amino acid sequence set forth in SEQ ID NO: 3, which polypeptide sequence: (i) comprises at least five amino acids, (ii) can induce the production of antibodies to *Helicobacter pylori*, and (iii) exhibits substantially no contribution to toxicity.

44. The vaccine of claim 43 wherein said sequence comprises at least ten amino acids.

Sub 14 45. The vaccine of claim 43 wherein said sequence comprises about five to about fifteen amino acids.

46. The vaccine of claim 43 which further comprises an effective amount of a second polypeptide sequence of the *Helicobacter pylori* cytotoxin associated immunodominant (CAI) antigen, which second polypeptide sequence: (i) comprises at least five amino acids, (ii) can induce the production of antibodies to *Helicobacter pylori*, and (iii) exhibits substantially no contribution to toxicity.

47. The vaccine of claim 46 wherein said sequence comprises at least ten amino acids.

Sub 15 48. The vaccine of claim 46 wherein said sequence comprises about five to fifteen amino acids.

49. A method of preparation of a prophylactic or therapeutic vaccine which comprises bringing into association:

- (1) an effective amount of a polypeptide sequence of the *Helicobacter pylori* cytotoxin, which polypeptide sequence: (i) comprises at least five amino acids, (ii) can induce the production of antibodies to *Helicobacter pylori*, and (iii) exhibits substantially no contribution to toxicity, and
- (2) a pharmaceutically acceptable carrier.

50. The method of claim 49 which further comprises adding